

Production Resources/Tools (PRT)



Release 4.6C



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Production Resources/Tools (PRT)

Purpose

Unlike machines and fixed assets, production resources and tools (PRTs) are movable (not stationary) operating resources that are required to perform an activity and can be used repeatedly. For example, PRTs include documents, engineering drawings, jigs and fixtures, and measurement instruments.

You can assign production resources/tools to internal and external activities. You use the assignment to determine:

- The quantity
- The operating time
- The dates

of the PRTs required to carry out the activity.

There are several categories of production resources and tools in the R/3 System. The category determines the characteristics and business functions that a PRT can have.

You can create production resources/tools with the following categories:

- A **material** PRT has its own material master record with the view "PRT". A material PRT can be procured, that is, it can either be purchased or produced. You can also keep it in stock and track both its value and quantity.
- A **miscellaneous** PRT has its own PRT master record and can neither be procured nor kept in stock.
- A **document** PRT has its own document info record, (for example engineering drawings or NC programs). You can manage these PRTs using the R/3 Document Management System.



In the Project System you can assign documents directly to activities. Consequently you will not use this type of PRT very often.

- An **equipment** PRT has its own equipment master record and has the full equipment functionality. This category is particularly useful for those production resources or tools which you must maintain yourself or which must be serviced at regular intervals. With the equipment category, you can furnish proof of service or usage values for the production resource/tool.

[What Data Can You Maintain for PRTs? \[Page 6\]](#)

[Allocating PRTs to Activities \[Page 20\]](#)

Data for Production Resources/Tools

Definition

Basic data and default values that you can maintain for PRTs have either a material master record or a PRT master record.

Structure

Basic data

Basic data is general information about the production resource or tool. Important basic data includes the task list usage and the requirement record indicator.

The task list **usage** specifies where production resources can be used (for example, in a routing or in a standard network). Depending on the task list usage you entered, you may only be able to assign the PRT to certain task list types.



Requirement records and their evaluation are not yet available.

Default Values

When creating PRT master records, you can maintain default values that are proposed when you allocate the production resource to an activity.

You cannot maintain default values for PRTs with document info records.



Default values which you have identified as **non-changeable** in the material or PRT master record cannot be changed in a standard network or network.

- The **control key** specifies how the PRT is to be handled after it is allocated to an activity (for example, whether it is scheduled).
- You can use the **standard text key** to store texts that you use often (for example, a text describing how to work with the PRT).
- The system uses **formulas for quantity and usage value** to calculate the required quantity of the PRT and its usage value.
- The **offset** determines when a PRT should be available; that is, offset to the start or finish of an activity. It also determines when the PRT is no longer required.
- You can enter the time interval in which the PRT is to be used. The system uses the time interval as well as the start and finish dates of the activity to calculate the start and finish dates for the usage of the PRT.



Drill bit no. 230 must be available five days before the activity “assembly” starts. You enter a time interval or offset of 5- for the start offset. The system calculates the new start date and the duration of PRT usage from the earliest start date of the activity.

Creating Material PRTs

Creating Material PRTs

To create a production resource/tool as a **material**, create a material master in which you maintain the *Production resources/tools* view. The PRT data are plant specific.

For more information about maintaining material master data, refer to the [Material Master \[Ext.\]](#) component LO-MD-MM).

1. Choose either *Logistics → Materials Management → Material Master → Material → Create (general) → immediately*

or

Logistics/accounting → Project System → Basic data → Master data → Material → Create.



In the second case do **not** choose *Production resources and tools*. This would create a PRT master record (see [Creating PRT Master Records \[Page 9\]](#)), and not a material master.

The initial screen for creating a material appears.

2. Enter the relevant data on the initial screen.



To create a material PRT you must enter a material type which allows you to maintain the *Production resources/tools* view. One such material type is **FHMI**. If you want to change the material type of a PRT, the new material type must have the *Production resources/tools* view.

3. Choose *Continue*.

The *Select Views* dialog box appears.

4. Select the *Prod. Resources/Tools* view and choose *Continue*.

The *Organizational Levels* dialog box appears.

5. Enter the plant to which the production resource/tool is assigned and choose *Enter*.

The *Create Material: Prod. Resources/Tools* screen appears.

6. Maintain the basic data and the default values for task list allocation.



If you have allocated a PRT to an activity, you can no longer change the base unit of measure and the unit of issue in the master record.

7. Save the material.

Creating PRT Master Records

1. Choose *Logistics/Accounting* → *Project System* → *Basic data* → *Master data* → *Production resources and tools* → *Create*.

The initial screen for creating a PRT (misc.) appears.

2. Enter a number for the PRT and choose *Continue*.

The *Basic data* screen appears.

3. Maintain the basic data.
4. Choose *Goto* → *Defaults* and enter the default values.
5. Save the PRT.

Creating Document PRTs

Creating Document PRTs

1. Choose *Logistics/Accounting* → *Project System* → *Basic data* → *Documents* → *Document management* → *Document* → *Create*.

The initial screen for creating a document appears.

2. Enter the necessary data.



In Customizing for the Document Management System, you can define which document type are valid for production resources/tools. Once you have defined the documents as document type *PRT*, you can no longer change this setting.

3. Choose *Continue*.

The *Basic data* screen appears.

4. Enter the relevant data for the document.
5. Save the document.

For more information about maintaining documents, refer to the [Document Management \[Ext.\]](#) component.

Creating Equipment PRTs

1. Choose *Logistics/Accounting* → *Project System* → *Basic data* → *Master data* → *Equipment* → *Create*.

The initial screen appears.

2. Enter the name of the PRT and the equipment category.



The equipment type determines which fields will be displayed on the screen and the views that you have to maintain. To use the equipment as a PRT, you must use an equipment category that displays the *PRT* tab page. In the standard system this is the category *P*.

3. Choose *Continue*.

The *Organization* screen appears.

4. Enter the necessary data.
5. Goto to the *PRT data* tab page and enter the necessary data.
6. Save the equipment.

For more information about maintaining equipment, refer to the [Equipment \[Ext.\]](#) component (PM-EQM-EQ).

Creating PRTs by Copying

Creating PRTs by Copying

Prerequisite

You can create a production resource/tool with a PRT master record (misc.) by copying, if you are authorized to display the original PRT.

Procedure

1. Choose *Logistics/Accounting* → *Project System* → *Basic data* → *Master data* → *Production resources/tools* → *Create*.

The initial screen for creating a PRT (misc.) appears.

2. Enter the number of the new PRT and of the template PRT.
3. Choose *Continue*.

The *Copy from* dialog box appears.

4. In this dialog box, select the data that you want to copy.
5. Choose *Copy from*.

The data that you selected in the template is copied to the new PRT master record. You can overwrite this data.

You can also copy from a template on the *Basic data* screen. To do so choose *Prod. Resources/Tools* → *Copy from* there.

6. Save the PRT.

For information about creating PRTs with a **material master record** by copying templates, refer to the [Material Master \[Ext.\]](#) component LO-MD-MM).

For information about creating PRTs with a document info record by copying templates, refer to the [Document Mangement \[Ext.\]](#) component CA-DMS).

For information about creating PRTs with an equipment master record by copying templates, refer to the [Equipment \[Ext.\]](#) component (PM-EQM-EQ).

Deleting PRTs

Depending on the type of PRT You can delete a PRT master record directly or by setting the deletion flag and marking the PRT for deletion.



Production resources that are marked for deletion can no longer be assigned to activities.

Material

To delete a PRT with a **material** master record, you must first mark the PRT for deletion. The PRT is then deleted in the next run of the archiving program, if it is not allocated to any activities.

1. Choose *Logistics/Accounting* → *Project System* → *Basic data* → *Master data* → *Material* → *Change*.
2. Choose *Material* → *Flag for deletion*.

Document

You flag **document** production resources/tools for deletion by setting the deletion indicator in PRT maintenance.

1. Choose *Logistics/Accounting* → *Project System* → *Basic data* → *Master data* → *Document* → *Change*.
2. On the Basic data screen choose *Document* → *Change delete ind*.

Miscellaneous (PRT Master)

- If a PRT with a PRT master is not used and no documents are assigned to the PRT, you delete it directly.
- If a PRT is still being used, you can only set a deletion flag. The archiving program then deletes the PRT, when it is no longer allocated to a task list, network or order.

To delete a PRT with its own master record **directly**, proceed as follows:

1. Choose *Logistics/Accounting* → *Project System* → *Basic data* → *Master data* → *Production resources/tools* → *Change*.
2. Choose *Prod. Resources/Tools* → *Delete*.

To set a deletion flag for a PRT with its own master record, proceed as follows:

1. Choose *Logistics/Accounting* → *Project System* → *Basic data* → *Master data* → *Production resources/tools* → *Change*.
2. Choose *Goto* → *Basic data* or *Default values*.
3. Choose *Edit* → *Deletion flag on/off*.

The system sets a deletion flag for the PRT, which you can revoke in the same way.

Deleting PRTs

Formulas in Production Resources/Tools

Definition

Use formulas to calculate the quantity and usage value of a PRT.

Use

You can define your own formulas for PRTs in Customizing for the *Project System*.



To use a formula, you must have previously defined the formula parameters that used in the formula.

Structure

Formula Parameters

You use **formula keys** to refer to the formulas that you want to use. Formulas contain **parameters**. These parameters are identified by a **parameter ID**. The parameter ID defines,

- Which key word is assigned to the parameter
- The dimension of the parameter
- The name with which the parameter is referred to in a formula.

Parameters have various **origins**.

- You can assign a parameter a **standard value** via the standard value key in the work center.



You can only use the standard value for work in networks and standard networks.

- **Formula constants in the work center:** You assign the parameter a fixed value in the work center.
- **General operation value:** The formula parameter is linked to a data field in the general activity data. Typical fields are:
 - Base quantity
 - Number of employees
- **User fields:** The value of a user-defined field in the activity is assigned to the formula parameter.
- **Value from production resource/tool (PRT) assignment:** You assign a data field in the production resource/tool assignment to the formula parameter. The value of this field is used in the formula.
- **Production resource/tool constants:** You assign constant values to the formula parameters in the PRT master record (PRT (misc.)).

Formulas in Production Resources/Tools**Formula Constants in Production Resources/Tools**

You can assign a constant value to a parameter when editing PRT master data (misc.). Choose *Extras* → *Formula constants*. The *Change Formula Constants* dialog box appears. Here you enter up to six parameters, for which you enter a value and an unit.

Replacing PRTs in Standard Networks

1. Choose *Logistics/Accounting → Project management → Basic data* and then *Standard structures → Standard network → Replace functions → PRT*.
The *Mass Replace PRT in Networks* screen appears.
2. To change the PRT category, choose *Settings → PRT category*.
A dialog box appears.
3. Select the PRT category that you want to replace.
4. Enter the relevant data on the selection screen.
5. Choose *Execute*.
A dialog box appears.
6. Enter a corresponding overview variant for the standard network.
The system displays a list of all standard networks in which the production resource or tool is used.
7. Choose *Settings → Replace with* and then the PRT category.
A dialog box appears.
8. Enter the new PRT and choose *Continue*.
9. Select the PRT that is to be replaced and choose *Edit → PRT*.
The PRTs are replaced and the standard network is saved.

Classification of Production Resources/Tools

Use

You can use the SAP classification system to classify PRTs with a material master and miscellaneous PRTs. In the classification system you can:

- Create classes for PRTs with special attributes, for instance measurements or weights.
- Assign a PRT to a class and maintain particular values for it, for instance, the length, diameter, speed or the feed rate of a drill.
- Use the characteristic attributes to find a PRT.

Displaying Where-Used Lists for PRTs

Where-Used Lists for PRTs in Standard Networks

1. Choose *Logistics/Accounting → Project System → Information system*.
2. Choose *Structure/dates → Where-used lists → PRT in standard networks*.
The *Use of PRT in Networks: Selection* screen appears.
3. Select the PRT category by choosing *Settings → PRT category*.
4. Enter the relevant data.
5. Choose *Execute*.
 - If you have **not yet** entered an overview variant in the profile for standard networks, the system will display a dialog box where you can choose one.
 - If you have entered an overview variant in the profile for standard networks, the system will automatically call up the correct object overview.

You can select another overview variant by choosing *Settings → Object overview*.
6. The system displays a list of all standard networks where the PRT is used.
7. To call up more information about a PRT, select the relevant object and choose *Goto → Details*.
8. To call up more information about the standard network, select the relevant object and choose *Goto → Overview*.

The system goes to the PRT overview. From this screen you can access other standard network functions.

Where-Used Lists for PRTs in Networks

1. Choose *Logistics/Accounting → Project System → Information system*.
2. Choose *Structure/dates → Where-used lists → PRT in networks* and then the relevant PRT category.
The *Use of PRT in Networks* screen appears.
3. Enter the relevant data and choose *Continue*.
The system displays a list of all networks where the PRT is used.
4. To display or edit the network, choose *Goto → Display network* or *Change network*.

Assigning PRTs to Activities

Assigning PRTs to Activities

Prerequisites

- You can only assign PRTs with **material master records** if:
 - The *Prod. resources/tools* view has been maintained in the material master
 - the MM/PP status of the material permits assignment
- You can only allocate PRTs with a **PRT master record (miscellaneous)** if the PRT status permits usage planning of the PRT.
- You can only plan the usage of PRTs with **document info records** when they have the *released for production* status.
- You can only allocate PRTs with an **equipment master record**, if the *Production resource/tool* view has been maintained in the equipment master record.

Procedure

1. Call up a network or standard network in create or change mode.
2. Choose *Goto* → *Activity overview*.
3. Select the activities to which you want to assign PRTs.
4. Choose *Activity* → *PRT overview*.
 - If no PRT has yet been assigned to the activity, the *PRT New Entries* screen appears.
 - If PRTs have already been assigned, the *PRT overview* screen appears.To assign another PRT, choose *Edit* → *Object* → *New Entries* and then the PRT category.
5. Enter the relevant data on the detail screen.
6. Choose *Back*.

The PRT is allocated to the activity.
7. Save your data.

General Data

You can maintain more data for the PRT by choosing *Details* → *PRT* → *General*.

Dates

If you have not entered any default values for the PRT, you can maintain an offset to the start or finish by choosing *Details* → *PRT* → *Dates*.

Quantities

If you have not entered default values, you can maintain formulas for the quantity and usage value (only in networks) by choosing *Details* → *PRT* → *Quantities*.

Assigning PRTs to Activities

Status

No business processes have been defined for production resources/tools in R/3 status management. If you execute a business transaction for a network activity, the PRT also receives the relevant system status.

If you have defined a status profile for a user profile, you can enter a user status for PRTs by choosing *Prod resources/tools* → *Status*.

Production Resource/Tool (PRT) Availability Check

Use

What is Checked?

A status in the master record of every PRT category (material, PRT (misc.), document or equipment) determines whether a PRT is available or not. During the availability check the system statically checks this status to see whether the PRT is available for use or not.



The availability check for PRTs does not check whether other orders or networks require the same PRT at the same time.

In the case of PRTs with material masters, you can also conduct an availability check in the plant stock of the PRT. The system then check in the following stocks:

- Unrestricted-use stock
- Stock in quality inspection
- Unrestricted-use consignment stock
- Consignment stock in quality inspection

You specify in Customizing, whether the system only checks the status or whether it checks the status and the plant stock.

When is Availability Checked?

The availability check takes place either **automatically** or when you start it **manually**.

- You can specify in Customizing whether the system should **automatically** check material availability and when to run this check. For example, the availability check can take place when you create or release a network.
- You can manually start the availability check at any time. In network maintenance choose *Edit → Availability → PRT*.

See also:

[Evaluating the Availability Log for PRTs \[Page 24\]](#)

[Classification of Production Resources/Tools \[Page 18\]](#)

Checking PRT Availability

Checking all PRTs

To start the overall check manually, choose *Edit* → *Availability* → *PRT* in the network header or on the activity overview,

The system checks the availability of all PRTs in the network. If there is a material shortage, the network is given the *material shortage* status. If a PRT is unavailable, this is also recorded in an error log (see [Evaluating the Availability Log for PRTs \[Page 24\]](#)).

Checking Individual PRTs

In an individual check, you check statically whether a single PRT is available. To do this, proceed as follows:

1. Select an activity in the activity overview and choose *Activity* → *PRT overview*.
2. Select the PRT whose availability you want to check.
3. Choose *Edit* → *Object* → *Check availability*.

The system checks the availability of the PRT and issues a message telling you whether the PRT is available.



The network only receives the status *material shortage* when you check the availability of **all** components assigned to the network.

Evaluating the Availability Log for PRTs

Evaluating the Availability Log for PRTs

1. When editing the network choose *Extras* → *Logs* → *PRT availability*.
An overview of the collected messages is displayed.
2. Choose *Log* → *Display* → *Message list*.
A list of all errors that occurred during the availability check appears.
3. To receive additional information about a message, double click on it.



When you change data that could influence the availability of a PRT, the availability check is **not** triggered automatically. To receive up-to-date information, you must check PRT availability again after you have made changes that could be relevant to PRT availability.